

REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-4, 6-10 and 12 are presently active in this case. The present Amendment amends Claims 1 and 7 without introducing any new matter; and cancels Claims 5 and 11 without prejudice or disclaimer.

The outstanding Office Action rejected Claims 1-3, 6-9 and 12 under 35 U.S.C. §103(a) as unpatentable over Cho et al. (U.S. Patent Publication No. 2004/0114087; herein “Cho”) in view of Imabayashi et al. (U.S. Patent No. 6,678,030; herein “Imabayashi”). Claims 1-3 and 7-9 were rejected under 35 U.S.C. §103(a) as unpatentable over Nishida et al. (U.S. Patent No. 6,842,207; herein “Nishida”). Claims 5 and 11 were rejected under 35 U.S.C. §103(a) as unpatentable over Nishida and Imabayashi in view of Yi et al. (U.S. Patent Publication No. 2003/0104291; herein “Yi”). Claims 1, 6, 7 and 12 were rejected under 35 U.S.C. §103(a) as unpatentable over Yi in view of Nishida and Imabayashi.

In response to the rejection of Claims 1-3, 6-9 and 12 under 35 U.S.C. §103(a) as unpatentable over Cho in view of Imabayashi, independent Claims 1 and 7 are amended to recite all the features of dependent Claims 5 and 11, respectively. In light of the amendments to the independent claims, the rejection of Claims 1-3, 6-9 and 12 is mooted.

In response to the rejections of dependent Claims 5 and 11 under 35 U.S.C. §103(a) as unpatentable over Nishida and Imabayashi in view of Yi, the features of dependent Claims 5 and 11 now incorporated into independent Claims 1 and 7, respectively, Applicant respectfully traverses the rejection, and requests reconsideration thereof, as next discussed.

Applicant submits that there is insufficient evidence for a motivation to modify the Nishida's active matrix crystal display panel, by incorporating Yi's spacers and black matrix made of the same reason, for the following reasons.¹

The outstanding Office Action states that the proposed modification would have been obvious "to construct a liquid crystal display as taught by Nishida et al. and Imabayashi et al. wherein the light shield layer and the columnar spacers are formed of the same material as taught by YI et al."² The record, however, fails to provide the required evidence of a motivation for a person of ordinary skill in the art to perform such modification. While Yi first puts a black organic layer 112 over the entire electrode 110,³ and thereby produces from the black organic layer 112 the black matrix portions 116 *and* the spacers 118, by employing a light exposure process through a mask 114,⁴ Nishida explains that the spacers 25 are located on the black matrix 9.⁵ Nishida clearly explains that "the spacers 26 are provided at locations which doe [sic] not have an influence on a display and at which they are covered with the black matrix 9."⁶ The reference Imabayashi, relied upon by the outstanding Office Action to form the 35 U.S.C. §103(a) rejection, also describes that that spacers SOC(1) are provided on the black matrix BM, and are separated by at least one layer, for example the over coat film OC.⁷

¹ See MPEP 2143.01 stating "[o]bviousness can only be established by combining or modifying the teaching of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art," (citations omitted). See also MPEP 2144.08 III stating that "[e]xplicit findings on motivation or suggestion to select the claimed invention should also be articulated in order to support a 35 U.S.C. 103 ground of rejection. . . . Conclusory statements of similarity or motivation, without any articulated rational or evidentiary support, do not constitute sufficient factual findings."

² See outstanding Office Action at page 10, lines 8-12.

³ See Yi at paragraph [0037], Figure 5c.

⁴ See Yi at paragraphs [0038]-[0039], and in Figures 5d-5e.

⁵ See Nishida at column 17, lines 1-15, and in corresponding Figure 12b.

⁶ See Nishida at column 17, lines 6-9.

⁷ See Imabayashi in Figures 4-7, and at column 5, lines 39-50.

The reference Yi, however, explains that the spacers 118 and the black matrix portions 116 are formed at the same time (with the above described process),⁸ and thereby a manufacturing step is reduced. Accordingly, based on the LCD structures of Nishida and Imabayashi, it is not possible to use Yi's single step manufacturing of the spacers *and* the black matrix from common material, being an initial layer 112 of organic material.

Accordingly, Yi teaches away from the manufacturing method of Nishida's and Imabayashi's active matrix liquid crystal display panel structure, as can be seen from Yi's Figure 5e, Nishida's Figure 12b, and Imabayashi's Figure 4. In this respect, "[a] reference may be said to teach away when a person of ordinary skill in the art, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." In re Gurley, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). In approaching the question of obviousness, it is improper to "consider[s] references in less than their entireties, i.e., in disregarding disclosures in references that diverge from and teach away from invention at hand." W. L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1540, 220 USPQ 303, 311 (Fed. Cir. 1983). "[D]isclosures in the references that diverge from and teach away from the invention cannot be disregarded," United States Steel Corp. v. Phillips Petroleum Co., 865 F.2d 1247, 9 USPQ2d 1461 (Fed. Cir. 1989).

It is therefore believed that Nishida and Yi do not provide the motivation to perform the proposed modification of Nishida and/or Imabayashi. In other words, an attempt to bring in the isolated teaching of Yi's manufacturing step making the spacers and the black matrix through the same process step and with the same material into Nishida's or Imabayashi's active matrix LCD structure would amount to improperly picking and choosing features from

⁸ See Yi at page 4, paragraph [0041], and in Figure 5d.

different references without regard to the teachings of the references as a whole.⁹ While the required evidence of motivation to combine need not come from the applied references themselves, the evidence must come from *somewhere* within the record.¹⁰ In this case, the record fails to support the proposed modification of Nishida.

Furthermore, Yi fails to teach or suggest that the first substrate includes a light shield layer formed in a picture-frame shape along a peripheral edge of a display region, and the first columnar spacer, the second columnar spacer and the light shield layer are formed of the same material, as recited in Applicant's amended Claim 1. Yi merely mentions the black matrix 116 formed between adjacent color pixels.¹¹ In Applicant's Claim 1, as further explained in a non-limiting example in Applicant's Figure 3, there is a light shield layer SP formed along an peripheral portion of a display region 102.¹² The remaining references Nishida or Imabayashi are also silent on such a feature.

Therefore, even if the combination of Yi, Nishida and/or Imabayashi is assumed to be proper, the combination fails to teach every element of the claimed invention. Accordingly, Applicant respectfully traverses, and requests reconsideration of, this rejection based on Yi, Nishida and/or Imabayashi.¹³

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in

⁹ See In re Ehrreich 590 F.2d 902, 200 USPQ 504 (CCPA, 1979) (stating that patentability must be addressed "in terms of what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of first one and then another of the isolated teachings in the art," and that one "must consider the entirety of the disclosure made by the references, and avoid combining them indiscriminately.")

¹⁰ See In re Lee, 277 F.3d 1338, 1343-4, 61 USPQ2d 1430 (Fed. Cir. 2002) ("The factual inquiry whether to combine references ... must be based on objective evidence of record. ... [The] factual question of motivation ... cannot be resolved on subjective belief and unknown authority. ... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion").

¹¹ See Yi for example in Figure 5e.

¹² See Yi for example at page 13, lines 7-22.

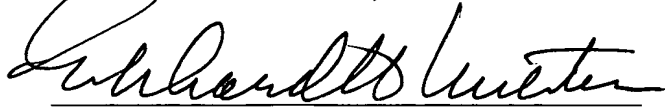
¹³ See MPEP 2142 stating, as one of the three "basic criteria [that] must be met" in order to establish a *prima facie* case of obviousness, that "the prior art reference (or references when combined) must teach or suggest all the claim limitations," (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

condition for formal Allowance. A Notice of Allowance for Claims 1-4, 6-10 and 12 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

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